Capsulodesis Versus Bone Trough Technique in Lateral Meniscal Allograft Transplantation: Graft Extrusion and Functional Results

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Disclosures

The authors do not have any conflict of interest related to this presentation.
- With the aim of trying to replace lost tissue as well as to prevent progressive deterioration of the joint, meniscal allograft transplantation (MAT) was introduced into clinical practice in the mid-eighties.

- MAT has shown favorable clinical results in terms of pain relief and functional improvement on a short- and medium-term basis. Over the years, several surgical soft-tissue and bone fixation techniques have been described to fix the graft.
Aim

To compare the radiographic results (in terms of graft extrusion) and the functional results of lateral meniscus allograft transplantations (MAT) performed with a bony fixation technique or with a soft tissue fixation technique after capsulodesis.
Methods

A prospective series of 29 consecutive lateral MAT.

The inclusion criterion for MAT was lateral joint line pain due to a previous meniscectomy. Malalignment, patients who had an Ahlback grade greater than II and patients with body mass index over 30, were considered as exclusion criterion.

Fifteen of the grafts were fixed with a bony fixation technique (group A). The remaining 14 cases (group B) were fixed with sutures through bone tunnels after lateral capsular fixation (capsulodesis).
Methods

All patients were studied with MRI to determine the degree of meniscal extrusion at an average of 18 months of surgery (range, 12-48 months).

Meniscal extrusion was measured on coronal MRI’s. To standardize the results, the percentage of meniscus extruded for each group was also calculated and compared. The functional results were analysed by means of standard knee scores (Lysholm, Tegner and VAS).
Results

If we consider the first 4 cases of group B as the learning curve of the new technique, we observe that Group A had 8 cases (53.3%) of major extrusion while Group B had 1 case (7.1%) (p=0.02). When comparing the degree of meniscal extrusion with the type of fixation employed and even lower percentage of extruded menisci was found in group B (p=0.01).
Results

The final follow-up Lysholm score in group A was 94.33 +/- 5.96 (p<0.001) and was 91.43 +/- 6.19 (p<0.001) in group B. The median follow-up Tegner score significantly improved from 4 (range 2-5) to 7 (range 6-9) in Group A (p<0.001) and from 4 (range 3-5) to 7 (range 6-8) in Group B (p<0.001).
Results

The average VAS score dropped down 5.87 and 7.29 points in Groups A and B, respectively (p<0.001). The KOOS score improved from 51.98 ± 2.84 to 90.88 ± 7.53 in Group A (p<0.001) and from 50.44 ± 2.32 to 92.01 ± 6.71 in Group B (p<0.001).

Patient satisfaction with regard to the procedure stood at a mean of 3.6 ± 0.2 points out of a maximum of 4 in Group A and 3.8 ± 0.4 in Group B. There were no complications in this series.
The capsulodesis technique in lateral MAT proved not to be statistically different at decreasing the degree of meniscal extrusion with respect to the bone-bridge fixation. If the first four cases using the new capsulodesis technique had not included in the results, the capsulodesis technique would have effectively presented better results relative to the degree of meniscal extrusion compared to the bone-bridge fixation technique. Additionally, the functional results were similar.
Moltes Gràcies!!

Thank You!!

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